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(19) **United States**(12) **Patent Application Publication** (10) **Pub. No.: US 2004/0148925 A1****Knight**(43) **Pub. Date:****Aug. 5, 2004**(54) **PRESSURIZER FOR A ROCKET ENGINE**

(57)

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ANDREW F. KNIGHT**2521 GLENGYLE DRIVE****VIENNA, VA 22181 (US)**(21) Appl. No.: **10/629,685**(22) Filed: **Jul. 30, 2003****Related U.S. Application Data**(63) Continuation-in-part of application No. 10/214,706,
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A pressurizer for pressurizing a fluid includes: at least two storage tanks, where, for each storage tank, the pressurizer further includes: a propellant entrance valve, a propellant exit valve, a pressurant entrance valve, and a pressurant exit valve, where each of the storage tanks is configured to be filled with the fluid under a low pressure when its propellant entrance and pressurant exit valves are open and its propellant exit and pressurant entrance valves are closed, and to be drained of the fluid under a high pressure by the force of a pressurant when its valves are reversed, where its valves are configured to be opened and closed in a cycle to sequentially fill and drain the storage tank of the fluid, the cycle having a cycle time of between 1 and 500 milliseconds, and where the cycles of the valves of the storage tanks are out of phase with each other such that at some time in which one storage tank is being filled with the fluid, at least one other storage tank is being drained of the fluid. The pressurizer may be used as a propellant pump in a rocket engine.

